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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/780,004	02/17/2004	Michael T. Rowan	66281.000005	9566

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EXAMINER

KIM, PAUL

ART UNIT

PAPER NUMBER

2161

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/780,004	Applicant(s) ROWAN ET AL.	
	Examiner Paul Kim	Art Unit 2161	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 February 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 26-73 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 26-73 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.


SAM RIMELL
PRIMARY EXAMINER

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>8/9/04, 12/15/04, 1/1/06, 6/1/06</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This Office action is responsive to the following communication: CIP application filed on 17 February 2004.
2. Claims 26-73 are pending and present for examination. Claims 26, 54, 63, 64, 69, and 73 are independent.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. **Claims 26-29, 32, 38-47, 54-61, 63-65, 69, 71, and 73** are rejected under 35 U.S.C. 102(e) as being anticipated by Green et al (USPGPUB 2003/0167380, hereinafter referred to as GREEN), filed on 22 January 2003, and published on 4 September 2003.

5. **As per independent claims 26, 54, 63, 64, 69, and 73**, GREEN teaches:

A method for providing data, the method comprising the steps of:

receiving a request {See GREEN, Para. 0147, wherein this reads over "a restore command is received"} to create a virtual data store that reflects a state of an original data store at a specified time, the specified time selected from a substantially continuous time interval {See GREEN, Para. 0148, wherein this reads over "the user decides to restore the system to the state in which it existed at 12:11 PM"};

receiving a storage protocol request for data at a specified address in the virtual data store {See GREEN, Para. 0148, wherein this reads over "volumes E and F"}; and

transmitting data stored in the original data store at the specified address at the specified time in response to the storage protocol request {See GREEN, Figures 42 and 43; and Para. 0148, wherein this reads over "Fig. 42 illustrates the state of the system prior to the restore and Fig. 43 illustrates the state of the system following the restore"}.

It would also be inherent to the claimed invention to select a specified time from a continuous time interval wherein the claimed method for providing data requires that the request to create a virtual data store reflect a state of an original data store at a specified time.

6. **As per dependent claims 27, 57, and 58, GREEN teaches:**

The method of claim 26 wherein the original data store comprises another virtual data store {See GREEN, Para. 0008, wherein this reads over "[t]he object of the snapshot for which the image is provided may be of a . . . logical partition"}.

7. **As per dependent claims 28, 40, 41, and 59, GREEN teaches:**

The method of claim 27 wherein the original data store comprises a current store and a time store {See GREEN, Para. 0146, wherein this reads over "restore functionality that allows restoration of a volume to any state recorded in a snapshot while retaining all snapshots"}.

8. **As per dependent claims 29 and 60, GREEN teaches:**

The method of claim 26 wherein the virtual data store comprises a logical unit {See GREEN, Para. 0008, wherein this reads over "[t]he object of the snapshot for which the image is provided may be of a . . . logical partition"}.

9. **As per dependent claim 32, GREEN teaches:**

The method of claim 26 wherein the request to create the virtual data store is received via a user interface {See GREEN, Figure 14; and Para. 0122, wherein this reads over "allows the user to schedule a new snapshot"}.

10. **As per dependent claim 38, 39, and 61, GREEN teaches:**

The method of claim 54, further comprising, before the generating step, the step of receiving a request to create the virtual data store {See GREEN, Para. 0126, wherein this reads over "the user is able to request that a recovery disk be created"}.

11. **As per dependent claims 42 and 71, GREEN teaches:**

The method of claim 26 wherein the original data store comprises at least one terabyte of data {See GREEN, Figure 44; and Para. 0006, wherein this reads over "If a terabyte of data is to be backed up, then a terabyte of storage capacity is required."}.

12. **As per dependent claim 43, GREEN teaches:**

The method of claim 42 wherein the original data store comprises multiple physical storage devices {See GREEN, Figure 44; and Para. 0046, wherein this reads over "[t]he computer may operate in a networked environment using logical connections to one or more remote computers" and "[s]uch networking environments are commonplace in . . . intranets and the Internet"}.

13. **As per dependent claim 44, GREEN teaches:**

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The method of claim 43 wherein the multiple physical storage devices comprise at least ten physical storage devices {See GREEN, Figure 44; and Para. 0046, wherein this reads over "[t]he computer may operate in a networked environment using logical connections to one or more remote computers" and "[s]uch networking environments are commonplace in . . . intranets and the Internet"}.

14. **As per dependent claim 45, GREEN teaches:**

The method of claim 44 wherein the multiple physical storage devices comprise at least 100 physical storage devices {See GREEN, Figure 44; and Para. 0046, wherein this reads over "[t]he computer may operate in a networked environment using logical connections to one or more remote computers" and "[s]uch networking environments are commonplace in . . . intranets and the Internet"}.

15. **As per dependent claim 46, GREEN teaches:**

The method of claim 26 wherein the virtual data store comprises a read only data store {See GREEN, Para. 0160, wherein this reads over "the snapshots maintained by the firmware are read only"}.

16. **As per dependent claims 47 and 55, GREEN teaches:**

The method of claim 54 wherein the specified time is selected from a substantially continuous time interval {See GREEN, Para. 0062, wherein this reads over "the first snapshot cache was being dynamically created between times 5 and 10 and actually changed from time 8 to time 9; and Para. 0148, wherein this reads over "the user decides to restore the system to the state in which it existed at 12:11 PM"}.

17. **As per dependent claim 56, GREEN teaches:**

The method of claim 55, further comprising the step of copying the virtual data store to another data store {See GREEN, Para. 0066, wherein this reads over "Data 'E' is written to this address at time 4, replacing data 'B'"}

18. **As per dependent claim 65, GREEN teaches:**

The system of claim 64, further comprising a storage protocol write request {See GREEN Para. 0057, wherein this reads over "[t]he letters (E, F, G, H, I, J, K, and L), shown within this grid, represent specific data for which a command to write such specific data to the volume at the corresponding address and at a specific time point has been received"}.

Claim Rejections - 35 USC § 103

19. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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20. **Claims 30-31, 33-37, 48-53, 62, 66-68, 70, and 72** are rejected under 35 U.S.C. 103(a) as being unpatentable over GREEN, in view of Official Notice.

21. **As per dependent claims 30, 51, and 66**, GREEN, in combination with Official Notice, would disclose a method wherein both the request to create the virtual data store and the storage protocol request are received in a single protocol request packet. It would have been obvious to one of ordinary skill in the art at the time the invention was created to transmit both the request to create the virtual data store (e.g. a new logical unit) and the storage protocol request in a single protocol request packet. One of ordinary skill in the art would acknowledge that a data packet may commonly include other information such as read and write commands.

22. **As per dependent claim 31**, GREEN, in combination with Official Notice, would disclose a method wherein the request to create the virtual data store is received in a different data packet than the storage protocol request. It would have been obvious to one of ordinary skill in the art at the time the invention was created to separately transmit either of the request to create the virtual data store (e.g. a new logical unit) and the storage protocol request in a single protocol request packet. One of ordinary skill in the art would acknowledge that a data packet may commonly include only one command, such as a request to create a virtual data store or a storage protocol request.

23. **As per dependent claim 33**, GREEN, in combination with Official Notice, would disclose a method wherein the request to create the virtual data store is received via the storage protocol request. It would have been obvious to one of ordinary skill in the art at the time the invention was created to receive the request to create the virtual data store via a standard storage protocol request.

24. **As per dependent claim 34**, GREEN, in combination with Official Notice, would disclose a method wherein the storage protocol request comprises a standard read request. It would have been obvious to one of ordinary skill in the art at the time the invention was created to have a storage protocol request comprise a standard read request. One of ordinary skill in the art would acknowledge that a standard read requests are used in storage protocol requests.

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25. **As per dependent claim 35, 52, and 67**, GREEN, in combination with Official Notice, would disclose a method wherein the storage protocol request comprises a SCSI read request. It would have been obvious to one of ordinary skill in the art at the time the invention was created to have a storage protocol request comprise a SCSI read request. SCSI is commonly known in the field of the claimed invention to provide a standard high-speed parallel interface. Hence, the use of a SCSI read request for a storage protocol request would have been obvious to one of ordinary skill in the art at the time the invention was created.

26. **As per dependent claims 36, 37, 53, and 68**, GREEN, in combination with Official Notice, would disclose a method wherein the storage protocol request comprises a Fibre Channel protocol request. It would have been obvious to one of ordinary skill in the art at the time the invention was created to have a storage protocol request comprise a Fibre Channel protocol request. Fibre Channel protocols are commonly known in the field of the claimed invention to provide a standardized active intelligent interconnection scheme, called a Fabric, to connect devices. Hence, the use of a Fibre Channel protocol request for a storage protocol request would have been obvious to one of ordinary skill in the art at the time the invention was created.

27. **As per dependent claims 48 and 70**, GREEN, in combination with Official Notice, would disclose a method wherein the data is transmitted substantially instantaneously in response to the storage protocol request. Data is commonly transmitted instantaneously in response to a storage request. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was created to have data transmitted instantaneously.

28. **As per dependent claims 49 and 72** GREEN, in combination with Official Notice, would disclose a method wherein the data is transmitted in less than 1 millisecond. Transmissions of data commonly occur in less than 1 millisecond. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was created to have data transmitted within a millisecond.

29. **As per dependent claim 50**, GREEN, in combination with Official Notice, would disclose a method wherein the step of writing data to the virtual data store occurs in response to a storage protocol

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write request. Any process wherein data is written to the virtual data store impliedly requires some write request. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was created to have data written to a virtual data store in response to a storage protocol write request.

30. **As per dependent claim 62**, GREEN, in combination with Official Notice, would disclose a method wherein the virtual data store is generated within one second of the request to create the virtual data store. It is commonly known to one of ordinary skill in the art that where a request is submitted, generation of a virtual data store may occur within one second.

Conclusion

31. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paul Kim whose telephone number is (571) 272-2737. The examiner can normally be reached on M-F, 9am - 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christian Chase can be reached on (571) 272-4190. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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